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UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/544,167	04/06/2000	Hiroyuki Urushiya	35.G2566	9371

5514	7590	11/02/2005

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EXAMINER
TRAN, NHAN T

ART UNIT	PAPER NUMBER
2615	

DATE MAILED: 11/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
	09/544,167	URUSHIYA, HIROYUKI
Office Action Summary	Examiner	Art Unit	
	Nhan T. Tran	2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>30 September 2005</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1,31-33,35 and 37</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1,31-33,35 and 37</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.　　A request for continued examination under 37 CFR 1.114, including the fee set forth in

37 CFR 1.17(e), was filed in this application after final rejection. Since this application is

eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e)

has been timely paid, the finality of the previous Office action has been withdrawn pursuant to

37 CFR 1.114. Applicant's submission filed on 9/30/2005 & 9/6/2005 has been entered.

Response to Arguments

2.　　Applicant's arguments with respect to claims 1, 31-33, 35 & 37 have been considered but

are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3.　　Claims 1, 31-33, 35 & 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Fossum et al (US 6,611,288) in view of Ianni et al (US 5,185,883) and in further view of

Murakami (US 5,982,946).

Regarding claim 1, Fossum discloses an image processing apparatus (col. 1, lines 5-7 and col. 2, lines 15-20) comprising:

extraction means (control 200) for extracting (reading out) a pixel signal of an image pickup means that has a plurality of pixels, and for determining positional information (addresses) of defective pixels based on the pixel signal information (col. 2, lines 21-65);

block forming means (combination of control 200 and register 204) for judging whether a plurality of the defective pixels are adjacent to each other (contiguous dead pixels) on the basis of the positional information of the defective pixels, encoding the adjacent defective pixels which are continuously located in one direction (i.e., a defective row, a defective column, etc. in form of R, C, T, wherein R is row, C is column and T is a three-bit code area type). See col. 3, lines 1-23. Fossum also discloses storage means (300) for storing the area type code T, and correction means for correcting the defective pixels by using peripheral pixels of the defective pixels, wherein the correction means integrates the area type codes T into region information (to form a complete indicia R, C, T) of the defective pixels which are adjacent to each other, and wherein the correction means do not use the other defective pixels (use good pixels only) based on the regional information. See col. 3, lines 1-23, 42-46; col. 3, line 55 – col. 4, line 27 and col. 5, lines 1-5.

Fossum does not specifically disclose that the area type T codes are run length codes which are information of the first coordinate values and lengths of the plurality of defective pixels. Ianni teaches a run length encoding circuit (54; Fig. 2) implemented with pixel intensity detection circuit (52; Fig. 2) of an imaging processing apparatus to encode addresses of defective pixels (failure pixel signals) and store run length codes into buffers/registers such that contiguous

defective pixels having the same intensity (either white or black) are detected and classified into

groups for further processing (see Ianni, Fig. 2, col. 3, lines 30-56 and col. 6, lines 27-55).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the

image processing apparatus in Fossum to use run-length codes as an alternative encoding

configuration over the encoding method in Fossum for classifying groups of defective pixels in

an effective way while reducing amount of data and using little memory space (Ianni, col. 7,

lines 13-20).

Fossum and Ianni do not clearly disclose that the block forming means defining a block

containing the adjacent defective pixels and peripheral, non-defective pixels for correcting the

defective pixels, the blocks formed in this way varying from one another in size or shape or both

depending on the number of adjacent defective pixels in the block and the location of those

defective pixels relative to one another. As taught by Murakami, pixel block is formed

containing adjacent defective pixels (DP) and peripheral, non-defective pixels (normal pixels or

NP) for correcting the defective pixels (see Murakami, Figs. 9-11; col. 17, line 45 – col. 18, line

34). Murakami also teaches that the block formed in this way varies from one another in size or

shape or both depending on the number of the adjacent defective pixels in the block and the

location of those defective pixels relative to one another (see Murakami, Figs. 9-11, col. 5, lines

16-24 and col. 18, lines 2-34).

Therefore, it would have been obvious to one of ordinary skill in the art to further

incorporate the teaching of Murakami into the combined image processing apparatus of Fossum

and Ianni for the block forming means to arrive at the Applicant's claimed invention so as to

flexibly identify defective pixels and minimize a texture deterioration by devising an order of

correcting the defective pixels as suggested by Murakami, col. 3, lines 24-28.

Regarding claim 31, Fossum and Ianni discloses that the block forming means expresses

the position and the width of the defective pixels adjacent in one direction using the run-length

coding (see Fossum, col. 3, lines 1-23 and Ianni, col. 3, lines 44-56).

Regarding claim 32, Fossum also discloses that the correction means takes a pixel region

necessary (nearest pixel region as a simplest example) to correct the adjacent defective pixels

from an output of the image pickup means and corrects those defective pixels in that pixel region

by using the regional information (col. 3, line 55 – col. 4, line 27; col. 5, lines 1-5). Also see

Murakami in col. 17, line 45 – col. 18, line 34 for defective pixel correction using regional

information.

Regarding claim 33, Fossum clearly discloses that all pixels do not fall within the

specified performance windows are identified and their addresses are stored in the registers 300

(see col. 2, lines 63-65).

Regarding claim 35, the method claim is also met by the analysis of the apparatus claim

1.

Regarding claim 37, see the analysis of claim 1. Fossum further discloses that the

operation of the imaging system is implemented by either hardware configuration or software

configuration (col. 4, lines 24-27) and the operation is executed according to prestored routine or

user-alterable routine (col. 3, lines 45-46) that indicates an inherent storage medium for storing a
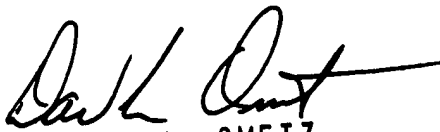
program to run the image processing operation.

Conclusion

4.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Nhan T. Tran whose telephone number is (571) 272-7371. The

examiner can normally be reached on Monday - Thursday, 7:30am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, David Ometz can be reached on (571) 272-7593. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NT.

DAVID L. OMETZ
SUPERVISORY PATENT
EXAMINER